

5.4 CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

This rating system was designed to differentiate between wetlands based on their sensitivity to disturbance, their significance, their rarity, our ability to replace them, and the functions they provide. The first four criteria can be considered as values that are somewhat independent of the functions provided by a wetland. Questions SC 1 to SC 5 provide the information needed to identify and rate the wetlands with these special characteristics. These types of wetlands have an importance or value that may supercede their functions. **You should determine whether the wetland being rated meets any of the conditions described below as well as answering the questions about functions.**

SC 1.0. Vernal pools

Vernal pools are precipitation-based, seasonal wetlands. For the purposes of this rating system they include only “scabrock” and “rainpool” vernal pools. Pools where surface water ponds for short periods that are found in forested areas, or surrounded by trees and shrubs, are not considered vernal pools in the context of this rating system. Figures 38 and 39 show typical vernal pools in the scabland area.

Relatively undisturbed vernal pools are either a category II or III, depending on their location in the landscape.



Figure 38: A scabrock vernal pool above Lake Lenore. Photo taken 7/14/99.



Figure 39: A scabrock vernal pool with water still in it. The pool is in a grazed pasture but undisturbed in early spring.

To be classified as a vernal pool the wetland should be less than 4000 ft², and meet **at least two** of the following criteria:

- *Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input.* The wetland will typically lie in areas where the basalt has been exposed by the ice age floods. It has formed in a small surface depression in the basalt and does not have an outlet.
- *Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals.* The water is present in the wetland for only short periods of time, usually less than 120 days. Wetland plants will be found only during the time of standing water or immediately afterwards. NOTE: If you find perennial, “obligate,” wetland plants the wetland is probably NOT a vernal pool.
- *The soils in the wetland are shallow (< 30 cm or 1ft deep) and are underlain by an impermeable layer such as basalt or clay.* You can determine the depth of the soil by digging a small hole with a tile spade. Determining if the impermeable layer is basalt should be easy (can’t dig any further), but identifying a clay layer is harder. You may have to take some of the soil between your fingers, add water, and feel if it is “greasy” and smooth (without grit). If in doubt, use the “ribbon test” for clay (Appendix B).
- *Surface water is present for less than 120 days during the “wet” season.* Estimating the duration of surface water in a vernal pool wetland is difficult unless one visits the wetland several times and notes the time at which the wetland fills and the time it dries out. Information about the drying and wetting cycles in the wetland may sometimes be obtained from local residents or frequent visitors to the wetland.

SC 1.1 *Is the vernal pool relatively undisturbed in February and March?*

To meet the criterion for “**relatively undisturbed**” a vernal pool has no disturbance within 200 ft during the months of February and March. Disturbance includes grazing, pets, urban or residential noise and human activity including road traffic. If the pool is grazed during the late spring and summer or fall, but not the early spring it can be considered “not disturbed.”

SC 1.2 *Is the wetland a relatively undisturbed vernal pool in an area where **there are at least 3 other separate aquatic resources** (other wetlands, rivers, streams, lakes, etc.), within 0.5 miles?*

If the wetland being rated meets the criteria for undisturbed vernal pools described in the section above, determine if there are any other wetlands or aquatic resources within ½ mile. Aquatic resources include lakes, reservoirs, wasteways with open water, rivers, and other wetlands. Use an aerial photograph or topographic map to answer this question if you cannot visit or see the area around the wetland.

If there are at least 3 other aquatic resources nearby the vernal pool is rated as a Category II wetland.

If the wetland is a relatively undisturbed vernal pool with fewer than three aquatic resources within ½ mile it is rated a Category III wetland.

SC 2.0 Alkali wetlands –Alkali wetlands are wetlands with high concentrations of salt. They have formed where groundwater comes to the surface and evaporates. The evaporation over many years has concentrated the salts that were present in the groundwater. These wetlands cannot be replicated through compensatory mitigation to our knowledge, and are rare on the landscape.

All alkali wetlands are Category I wetlands. A wetland is alkali if it meets **one** of the following four criteria.

- *The wetland has conductivity greater than 3.0 mS.* Conductivity is measured with a “conductivity” meter, and the units are “Siemens” or “Mhos”. The units of measures are equivalent. For example, 3.0 milliSiemens is the same as 3.0 millimhos. Measure the conductivity at least 1-2 feet from the edge of surface water. If the weather is hot the conductivity at the immediate edge may be much higher because of local evaporation. If you do not have a conductivity meter, you will have to determine if the wetland is alkali using the other criteria listed below.
- *The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 2 for list of plants found in alkali systems).* The plant list in Table 2 is not exclusive, and the criterion can be met by any plant species known to be salt tolerant.

Conductivity measures the ability of a solution to conduct an electric current between two electrodes. With an increasing amount of ions (i.e. salts) present in the liquid, the liquid will have a higher conductivity.

Normal units of measurement are:

1 micromho (μmho) = 1 microSiemen (μS),

1 millimho (mmho) = 1 milliSiemens (mS) = 1,000 μS

- If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. (Figure 40)

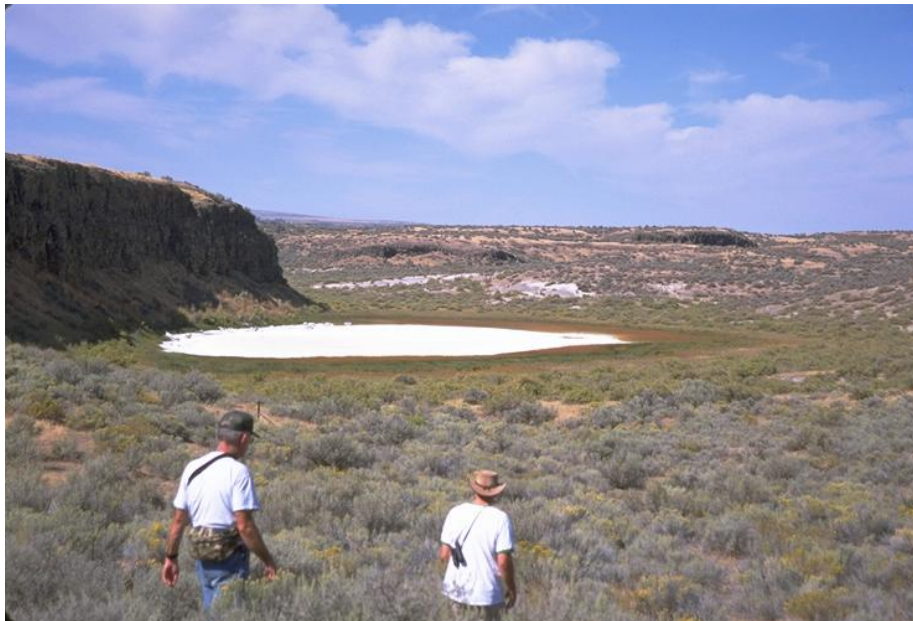


Figure 40: An alkali wetland where surface is covered with salt encrustations. In this wetland the salt was 4-6 inches deep.

Table 2: Plants species that are tolerant of high salt concentration and are often dominant in alkali wetlands.

Latin Name	Common Name
<i>Scirpus maritimus</i>	bulrush
<i>Juncus balticus</i>	Baltic rush
<i>Distichls spicata</i>	saltgrass
<i>Potentilla gracilis</i> , <i>P. anserina</i>	Cinquefoils
<i>Salicornia rubra</i> <i>S. virginica</i>	Glasswort, Saltwort
<i>Puccinellia lemmonii</i>	Alkali grass
<i>Bassia hyssopifolia</i>	Smother weed
<i>Eleocharis rostellata</i>	Beaked spike-rush

- Wetland meets two of the following three sub-criteria.
 - Salt encrustations around more than 3/4 of the edge of the wetland. Alkali wetlands will usually have a rim of salt crystals around their edge as the water in the wetland evaporates. Some freshwater wetlands have a fairly high salt content and are on the verge of being alkali. Such borderline wetlands will have an occasional patch of salt encrusted around its edge. Any wetland, however, where the encrustations are found around more than 3/4 of the edge should be alkali. The eight alkali wetlands found during the function assessment project all met this criterion and had their conductivity confirmed by the meter. Figure 41 gives an example of an alkali wetland with a salt ring around it.

- *More than ¾ of the plant cover consists of species listed on Table 2.*
- *A pH above 9.0.* All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. The pH can be measured using a pH meter or paper tabs with indicators on them (pH paper).



Figure 41: Salt encrustations around an alkali wetland.

SC 3.0: Natural Heritage wetlands – *Is the wetland a natural heritage wetland?*

Wetlands that are Natural Heritage sites have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. To answer this question you first need to determine if the Section, Township, and Range within which the wetland is found contains a Natural Heritage site (Question SC 3.1 on the rating form). Appendix D lists this information for eastern Washington at the time of printing (March 2003). More up-to-date information may be available on the Natural Heritage internet site at (<http://www.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf>).

If, however, the wetland being rated falls within one of the Section/Township/Ranges listed, you will need to contact the Natural Heritage Program directly to find out if the wetland is a heritage site (Questions SC 2.2 and SC 2.3). Procedures for requesting this information are available on their web site

<http://www.dnr.wa.gov/nhp/refdesk/index.html> (as of July 2004). Another option is to contact the Natural Heritage Program by calling 360-902-1667. You should ask whether the wetland has been identified as a heritage wetland. The Natural Heritage Program will provide information on whether the site contains a Natural Heritage plant community, sensitive species or T/E plant species. If it does it is a Category I wetland.

SC 4.0. Bogs –If the wetland meets the criteria for bogs described below, it is a Category I wetland. Bogs cannot be replicated through compensatory mitigation and are very sensitive to disturbance.

The terms associated with bogs are complex and often confusing (e.g. bogs, fens, mires, peat bogs, Sphagnum bogs, heath). Bogs occupy one end of a gradient of wetlands dominated by organic soils, low nutrients, and low pH (3.5 – 5.0). Bogs are generally acidic, and have low levels of nutrients available for plants due to receiving water primarily from precipitation. Plants growing in these sensitive wetlands are specifically adapted to such conditions, and are usually not found, or uncommonly found, elsewhere. Relatively minor changes in the water regime or nutrient levels in bogs may cause major changes in the plant community. Bogs, and their associated acidic peat environment, provide a habitat for unique species of plants and animals.

Bogs in Washington State may or may not contain tree species. Most bogs are dominated by shrub and herbaceous vegetation that rarely exceeds three feet in eastern Washington. The ground is usually very spongy and covered with mosses (often of the genus *Sphagnum*). Some bogs will actually float on top of a lake or pond. Many bogs contain highly stunted individual trees of sitka spruce, western red cedar, western hemlock, lodgepole pine, western white pine, Engelmann's spruce, subalpine fir, aspen, or crab apple. However, some bogs contain mature forest species.

Forested bogs are more difficult to identify. They may contain mature, full-sized trees of sitka spruce, western red cedar, western hemlock, lodgepole pine, western white pine, Engelmann's spruce, or aspen. The trees grow very slowly and may take many centuries to reach sizes common in much younger forests. The characteristics that typically identify these forests as bogs are organic soils and, frequently, the presence of shrub or herbaceous bog species such as Sphagnum moss. Sphagnum or other bog species may only cover a small portion of the ground, especially if there are pools of standing water in the forest or if there is substantial litter.

Identifying bogs can be challenging, particularly in a forested setting. It is necessary to confirm the presence of organic soils by digging soil pits, and it further requires the identification of particular plant species. It may also be difficult to determine the boundaries of a bog. The following key was developed as a guide to help in the identification of bogs and is the one used on the Forest Practices Manual.

Key for Identifying Category I Bogs in the Rating System

1. Does the wetland have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)

Yes - go to Q. 3

No - go to Q. 2

The following description of organic soils is from the Natural Resources Conservation Service (formerly the Soil Conservation Service). Soils with an organic carbon content of 18% or more (excluding live roots) if the mineral fraction contains more than 60% clay; 2) soils with an organic carbon content of 12% if the mineral fraction contains no clay; or 3) soils with an organic carbon content between 12-18% based on the percentage of clay present (multiply the actual percentage of clay by 0.1 and add to 12%). It is not usually necessary, however, to do a chemical analysis of the soil to determine if a soil is organic. Organic soils are easy to recognize as black- colored mucks or as black or dark brown peats. Mucks feel greasy and stain fingers when rubbed between the fingers. Peats have plant fragments visible throughout the soil and feel fibrous. Many organic soils, both peats and mucks, may smell of hydrogen sulfide (rotten eggs).

2. Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?

Yes - go to Q. 3

No - **Is not** a bog for purpose of rating

3. Does the wetland have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?

Yes – **Is a bog** for purpose of rating (Category I) No - go to Q. 4

NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species are present in Table 3, the wetland is a bog.

4. Is the wetland forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?

Yes – **Is a bog** for purpose of rating (Category I)

No - **Is not** a bog for purpose of rating

NOTE: Total cover is estimated by assessing the area of wetland covered by the shadow of plants if the sun were directly overhead. You are trying to determine whether 30% of the total "footprint" of plants on the site consists of plant species listed in Table 3.

Table 3

Characteristic bog species in Washington State

Andromeda polifolia

Bog rosemary

Betula glandulosa

Bog birch

Carex aquatilis

<i>Carex atherodes</i>	Awed sedge
<i>Carex brunescens</i>	Brownish sedge
<i>Carex buxbaumii</i>	Brown bog sedge
<i>Carex canescens</i>	Hoary sedge
<i>Carex chordorhiza</i>	Creeping sedge
<i>Carex comosa</i>	Bearded sedge
<i>Carex echinata</i> var <i>phyllomania</i>	
<i>Carex lasiocarpa</i>	Woolly-fruit sedge
<i>Carex leptalea</i>	Bristly-stalk sedge
<i>Carex limosa</i>	Mud sedge
<i>Carex livida</i>	Livid sedge
<i>Carex paupercula</i>	Poor sedge
<i>Carex rostrata</i>	Beaked sedge
<i>Carex saxatilis</i>	Russet sedge
<i>Carex sitchensis</i>	Sitka sedge
<i>Carex interior</i>	Inland sedge
<i>Carex pauciflora</i>	Few-flower sedge
<i>Carex utriculata</i>	Bladder sedge
<i>Cladina rangifera</i>	Reindeer lichen
<i>Drosera rotundifolia</i>	Sundew
<i>Eleocharis pauciflora</i>	Few-flower spike rush
<i>Empetrum nigrum</i>	Black crowberry
<i>Eriophorum chamissonis</i>	Cottongrass
<i>Eriophorum polystachion</i>	Coldswamp cottongrass
<i>Fauria crista-galli</i>	Deer-cabbage
<i>Gentiana douglasiana</i>	Swamp gentian
<i>Juncus supiniformis</i>	Hairy leaf rush
<i>Kalmia occidentalis</i>	Bog laurel
<i>Ledum groenlandicum</i>	Labrador tea
<i>Menyanthes trifoliata</i>	Bog bean
<i>Myrica gale</i>	Sweet gale
<i>Pedicularis groenlandica</i>	Elephant's-head lousewort
<i>Platanthera dilatata</i>	Leafy white orchid
<i>Potentilla palustris</i>	Marsh cinquefoil
<i>Rhynchospora alba</i>	White beakrush
<i>Salix commutata</i>	Under-green willow
<i>Salix eastwoodiae</i>	Mountain willow
<i>Salix farriar</i>	Farr willow
<i>Salix myrtillofolia</i>	Blue-berry willow
<i>Salix planifolia</i>	Diamond leaf willow
<i>Sanguisorba officinalis</i>	Great burnet
<i>Sphagnum</i> spp.	Sphagnum mosses
<i>Spiranthes romanzoffiana</i>	Hooded ladies'-tresses
<i>Tofieldia glutinosa</i>	Sticky false-asphodel
<i>Vaccinium oxycoccus</i>	Bog cranberry

NOTE: Latin names and spelling are based on the U.S. Fish and Wildlife Service, "National List of Plant Species that Occur in Wetlands: Washington". Biological Report May 1988.NERC-88/18.47.

If in doubt, it is important to consult someone with expertise in identifying bogs. The intent of the criteria is to include in Category I those bogs that have relatively undisturbed native plant communities.

SC 5.0 Forested Wetlands - *Does the wetland have an area of forest (you should have identified a forested class, if present, in question H 1.1) rooted within its boundary that meet at least one of the following three criteria?*

- The wetland is within the “100-year” floodplain of a river or stream.
- Aspen (*Populus tremuloides*) are a dominant or co-dominant of the “woody” vegetation. (Dominants means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species).
- There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW, and listed below. The descriptions of these forests are copied from WDFW (as of April 1, 2003) and any updates are available on the department’s web page -<http://wdfw.wa.gov/hab/phshabs.htm>

Forested wetlands, for the purpose of this rating system, are defined as wetlands that have trees rooted within their boundaries where:

- The trees provide a canopy over at least 30% of the ground within the extent of their distribution (at least ¼ acre, or 10% of the wetland if it is smaller than 2.5 acres), AND
- The trees are at least 20 ft. tall.

Old-growth east of Cascade crest: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are greater than 53 cm (21 in) diameter at breast height (dbh), and 2.5-7.5 snags/ha (1 - 3 snags/acre) > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions.

Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; Oldest trees are 80 - 160 years old east of the Cascade crest.

SC 5.1 *Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees?*

Slow growing forests include those where more than 50% of the tree species (by cover)

that provide the canopy are slow growing as listed in Table 4.

YES = Category I

NO = go to SC 5.2

SC 5.2 Does the wetland have aspen (*Populus tremuloides*) as a dominant or co-dominant species in the category of woody species?

YES = Category I

NO = go to SC 5.3

SC 5.3 Does the wetland have at least ¼ acre of a fast growing forest?

Fast growing forests include those where more than 50% of the tree species (by cover) that provide the canopy are fast growing as listed in Table 4.

YES = Category II

NO = go to SC 5.3

SC 5.3 Is the forested component of the wetland within the “100 year floodplain” of a river or stream?

YES = Category II

NO categorize based on functions

All forested wetlands in the 100-year floodplain are Category II wetlands based on their location. These wetlands, however, may often be a Category I based on functions. The “100-year floodplain” is mapped by FEMA (Federal Emergency Management Agency). Generally, local planning departments or departments of public works have this information available.

Table 4: List of slow growing and fast growing native trees found in eastern Washington wetlands.

SLOW GROWING WETLAND TREES	FAST GROWING WETLAND TREES
Cedar – western red (<i>Thuja plicata</i>) Alaska yellow (<i>Chamaecyparis nootkatensis</i>)	Alders – red (<i>Alnus rubra</i>) thin-leaf (<i>A. tenuifolia</i>)
Pine spp. mostly “white” pine (<i>Pinus monticola</i>)	Cottonwoods – narrow-leaf (<i>Populus angustifolia</i>) black (<i>P. balsamifera</i>)
Hemlock – western (<i>Tsuga heterophylla</i>)	Willows- peach-leaf (<i>Salix amygdaloides</i>) Sitka (<i>S. sitchensis</i>) Pacific (<i>S. lasiandra</i>)
Englemann spruce (<i>Picea engelmannii</i>)	Aspen (<i>Populus tremuloides</i>)
	Water Birch (<i>Betula occidentalis</i>)

If only part of the wetland is forested, and the category based on functions is II or III, the wetland may be assigned a dual rating as described in Section 4.3.

5.5 RATING THE WETLAND

Each wetland can have several ratings: one resulting from its score for the functions and one resulting from special characteristics it may have. The first page of the rating form contains a box for recording each rating. This box should be filled out after completing the form. Pick the “highest” category (i.e. the lowest number) when assigning an overall category for the wetland being rated.

The first page of the rating form also contains a table in which you can summarize the hydrogeomorphic class of the wetland and whether it falls into one of the “special” types of wetlands.

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APPENDIX A

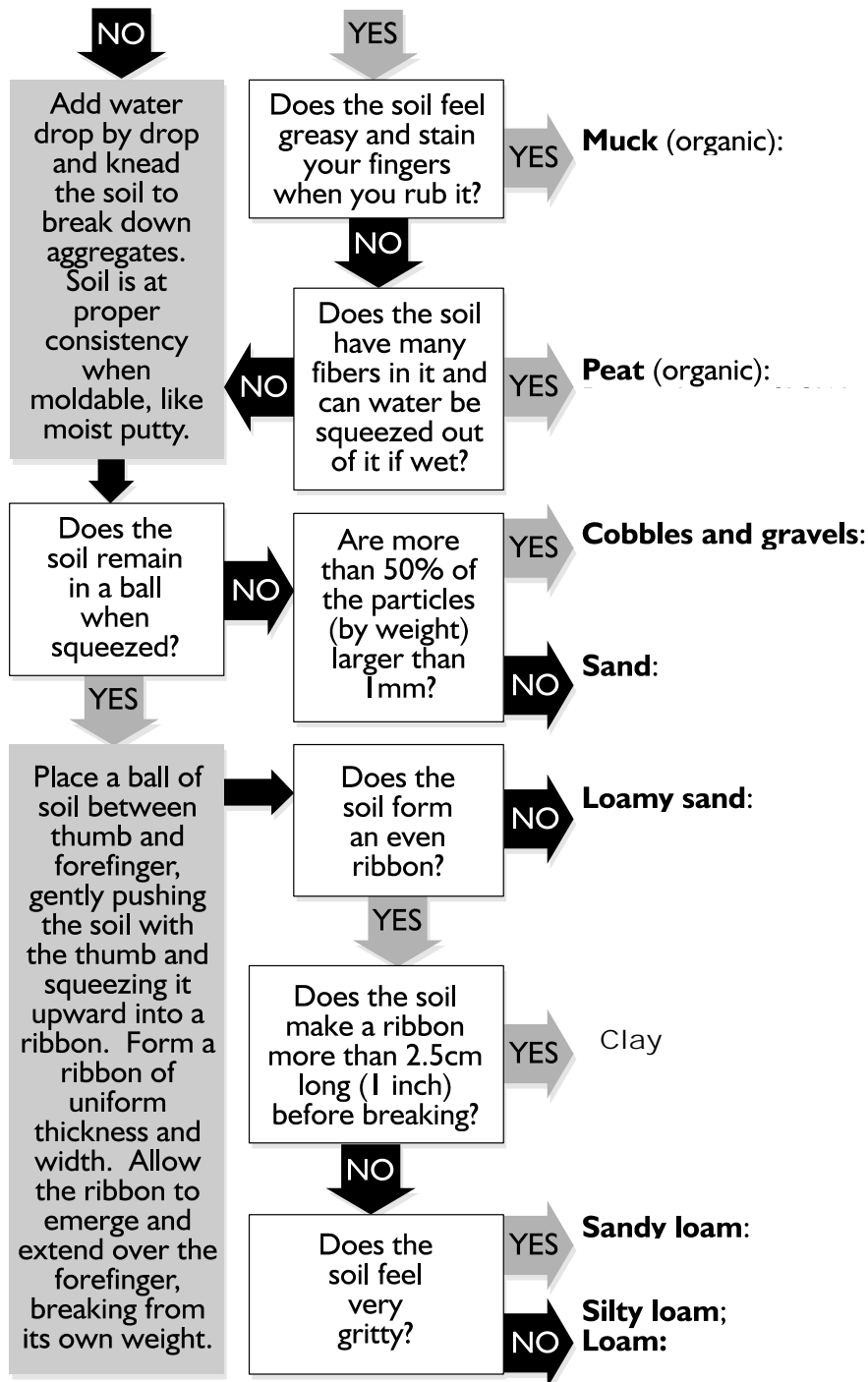
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APPENDIX B

Analyzing the type of soil present in the wetland.

Place approximately 2 tbs. of soil in palm.
Is the soil *black, dark brown, or brown*?



APPENDIX C

Draft List of surveyed land sections in Eastern Washington identified by the Natural Heritage program reported to contain Natural Heritage Features associated with wetlands. This list was compiled on February 14, 2003. Contact the WA Natural Heritage Program at (360) 902-1667 for more detailed information on locations and occurrences.

TOWNSHIP/RANGE/ SECTION		008N016E	26	014N023E	28	020N033E	16
002N014E	18	008N016E	27	014N023E	33	020N033E	18
002N014E	19	008N016E	28	014N026E	01	020N035E	15
002N014E	30	009N015E	36	014N026E	02	020N036E	02
002N015E	23	009N016E	32	014N026E	11	020N037E	35
003N009E	31	009N019E	31	014N026E	12	020N042E	27
003N011E	15	009N038E	04	014N026E	14	020N044E	01
003N011E	29	009N043E	15	014N027E	07	020N044E	02
003N011E	35	010N016E	21	014N027E	16	020N044E	03
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005N014E	11	012N025E	20	014N037E	18	020N045E	06
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037N029E	03	037N043E	29	038N036E	32	039N030E	20
037N029E	09	037N043E	32	038N036E	34	039N030E	21
037N029E	33	037N043E	33	038N036E	35	039N030E	22
037N030E	09	037N044E	18	038N036E	36	039N030E	25
037N030E	12	037N044E	23	038N039E	16	039N030E	27
037N031E	01	037N044E	24	038N041E	10	039N030E	30
037N031E	05	037N044E	28	038N041E	11	039N030E	31

039N030E	32	040N030E	21	040N043E	14
039N030E	33	040N030E	24	040N043E	22
039N030E	35	040N030E	25	040N043E	23
039N030E	36	040N030E	30	040N043E	27
039N031E	06	040N031E	05	040N043E	34
039N031E	32	040N031E	06	040N044E	07
039N032E	29	040N031E	07	040N044E	19
039N032E	32	040N031E	08	040N044E	20
039N032E	34	040N031E	09	040N044E	30
039N033E	30	040N031E	15	040N044E	31
039N033E	31	040N031E	17	040N045E	10
039N034E	06	040N031E	19	040N045E	30
039N035E	01	040N031E	20	040N045E	31
039N036E	06	040N032E	13		
039N036E	18	040N033E	19		
039N036E	29	040N033E	32		
039N037E	04	040N034E	31		
039N037E	27	040N034E	32		
039N038E	05	040N035E	04		
039N039E	06	040N035E	11		
039N041E	10	040N035E	13		
039N041E	23	040N035E	14		
039N042E	06	040N035E	15		
039N043E	02	040N035E	16		
039N045E	03	040N035E	36		
040N020E	13	040N036E	18		
040N021E	06	040N036E	25		
040N021E	08	040N036E	30		
040N021E	09	040N036E	31		
040N021E	10	040N036E	32		
040N021E	12	040N036E	34		
040N021E	18	040N037E	01		
040N021E	19	040N037E	07		
040N021E	20	040N037E	08		
040N021E	22	040N037E	10		
040N022E	30	040N037E	15		
040N022E	31	040N037E	18		
040N022E	34	040N037E	19		
040N023E	02	040N037E	20		
040N023E	03	040N037E	25		
040N023E	07	040N037E	28		
040N023E	10	040N037E	29		
040N023E	11	040N037E	30		
040N023E	14	040N037E	33		
040N023E	15	040N038E	04		
040N023E	16	040N038E	06		
040N023E	22	040N038E	07		
040N023E	35	040N038E	09		
040N024E	02	040N038E	15		
040N024E	07	040N038E	20		
040N024E	11	040N038E	21		
040N024E	14	040N038E	22		
040N024E	15	040N038E	23		
040N025E	03	040N038E	26		
040N030E	01	040N038E	32		
040N030E	03	040N038E	33		
040N030E	10	040N039E	02		
040N030E	12	040N039E	20		
040N030E	16	040N043E	03		

WETLAND RATING FORM – EASTERN WASHINGTON

Wetland Name: _____ Date: _____

Name of wetland (if known): _____

Location: SEC: ____ TOWNSHIP: ____ RANGE: ____ (attach map with outline of wetland to rating form)

Person(s) Rating Wetland: _____ Affiliation: _____ Date of site visit: ____

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ____ II ____ III ____ IV ____

Category I = Score >70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for “Water Quality” Functions

Score for Hydrologic Functions

Score for Habitat Functions

TOTAL score for functions

Category based on SPECIAL CHARACTERISTICS of wetland

I ____ II ____ III ____ Does not Apply ____

Final Category (choose the “highest” category from above)

--

Check the appropriate type and class of wetland being rated.

Wetland Type		Wetland Class	
Vernal Pool		Depressional	
Alkali		Riverine	
Natural Heritage Wetland		Lake-fringe	
Bog		Slope	
Forest			
None of the above			

Does the wetland being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That Need Special Protection, and That Are Not Included in the Rating	YES	NO
A1. <i>Has the wetland been documented as a habitat for any Federally listed Threatened or Endangered plant or animal species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		
A2. <i>Has the wetland been documented as habitat for any State listed Threatened or Endangered plant or animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database.		
A3. Does the wetland contain individuals of Priority species listed by the WDFW for the state?		
A4. Does the wetland have a local significance in addition to its functions. For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. Classifying the wetland first simplifies the questions needed to answer how it functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 20 for more detailed instructions on classifying wetlands.

Classification of Vegetated Wetlands for Eastern Washington

Wetland Name: _____

Date: _____

1. Does the wetland meet both of the following criteria?

____ The vegetated part of the wetland is on the shores of a body of open water (without any vegetation on the surface) where at least 20 acres (8 ha) are permanently inundated (ponded or flooded);

____ At least 30% of the open water area is deeper than 3 m (10 ft)?

NO – go to Step 2

YES – The wetland class is Lake-fringe (lacustrine fringe)

2. Does the wetland meet all of the following criteria?

____ The wetland is on a slope (*slope can be very gradual*),

____ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.

____ The water leaves the wetland **without being impounded?**

NOTE: *Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks(depressions are usually <3ft diameter and less than a foot deep).*

NO - go to Step 3

YES – The wetland class is Slope

3. Is the wetland in a valley or stream channel where it gets inundated by overbank flooding from that stream or river? In general, the flooding should occur at least once every ten years to answer “yes.” *The wetland can contain depressions that are filled with water when the river is not flooding.*

NO - go to Step 4

YES – The wetland class is Riverine

4. Is the wetland in a topographic depression, outside areas that are inundated by overbank flooding, in which water ponds, or is saturated to the surface, at some time of the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to Step 5

YES – The wetland class is Depressional

5. Your wetland seems to be difficult to classify. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. Sometimes we find characteristics of several different hydrogeomorphic classes within one wetland boundary. If you have a wetland with several HGM classes present within its boundaries use the following table to identify the appropriate class to use for the rating system. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland being rated.

HGM Classes Within One Delineated Wetland Boundary	Class to Use in Rating if area of this class > 10% total
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine (riverine is within boundary of depression)	Depressional
Depressional + Lake-fringe	Depressional

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

D Depressional Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that the wetland functions to improve water quality		
D	D 1.0 Does the wetland have the <u>potential</u> to improve water quality? (<i>see p. 32 in text</i>)	
D	D 1.1 Characteristics of surface water flows out of the wetland: Wetland has no surface water outlet - points = 5 Wetland has an intermittently flowing, or highly constricted, outlet – points = 3 Wetland has a permanently flowing surface outlet – points = 1	
D	D 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). YES points = 3 NO points = 0	
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest): Wetland has persistent, ungrazed, vegetation for > 2/3 of area points = 5 Wetland has persistent, ungrazed, vegetation from 1/3 to 2/3 of area points = 3 Wetland has persistent, ungrazed vegetation from 1/10 to < 1/3 of area points = 1 Wetland has persistent, ungrazed vegetation < 1/10 of area points = 0	
D	D 1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of ponding that fluctuates every year. Do not count the area that is permanently ponded.</i> Area seasonally ponded is > 1/2 total area of wetland points = 3 Area seasonally ponded is 1/4 - 1/2 total area of wetland points = 1 Area seasonally ponded is < 1/4 total area of wetland points = 0 NOTE: See text for indicators of seasonal and permanent inundation/flooding.	
D	Total for D 1 <i>Add the points in the boxes above</i>	
D	D 2.0 Does the wetland have the <u>opportunity</u> to improve water quality? (<i>see p.38</i>) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants.</i> — Grazing in the wetland or within 150ft — Wetland intercepts groundwater within the Reclamation Area — Untreated stormwater flows into wetland — Tilled fields or orchards within 150 feet of wetland — Water from a stream or culvert flows into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier _____
D	TOTAL - Water Quality Functions Multiply the score from D1 by the multiplier in D2 <i>Record score on p. 1 of field form</i>	

D Depressional Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream erosion		
D	D 3.0 Does the wetland have the <u>potential</u> to reduce flooding and stream erosion? (see p. 39)	
D	D 3.1 Characteristics of surface water flows out of the wetland: Wetland has no surface water outlet points = 8 Wetland has an intermittently flowing, or highly constricted, outlet points = 4 Wetland has a <u>permanently</u> flowing surface outlet points = 0	
D	D 3.2 Depth of storage during wet periods: <i>Estimate the height of ponding above the surface of the wetland (see text for description of measuring height). In wetlands with permanent ponding, the surface is the lowest elevation of "permanent" water)</i> Marks of ponding are at least 3 ft above the surface points = 8 The wetland is a "headwater" wetland" (see p. 39) points = 6 Marks are 2 ft to < 3 ft from surface points = 6 Marks are 1 ft to < 2 ft from surface points = 4 Marks are 6 in to < 1 ft from surface points = 2 No marks above 6 in. or wetland has only saturated soils points = 0	
D	Total for D 3 <i>Add the points in the boxes above</i>	
D	D 4.0 Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 42) <i>Answer NO if the major source of water is groundwater, irrigation return flow, or water levels in the wetland are controlled by a reservoir.</i> <i>Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows.</i> <i>Note which of the following conditions apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems — Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier _____
D	TOTAL - Hydrologic Functions Multiply the score from D3 by the multiplier in D4 <i>Record score on p. 1 of field form</i>	

Comments

R Riverine Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
R	R 3.0 Does the wetland have the <u>potential</u> to reduce flooding and erosion? (see p. 47)	
R	<p>R 3.1 Amount overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow of water and the width of the stream or river channel (distance between banks). Calculate the ratio: width of wetland/ width of stream.</i></p> <p>If the ratio is 2 or more points = 10 If the ratio is between 1 and < 2 points = 8 If the ratio is ½ to < 1 points = 4 If the ratio is ¼ to < ½ points = 2 If the ratio is < ¼ points = 1</p>	
R	<p>R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description.</i></p> <p>Forest or shrub for more than 2/3 the area of the wetland. points = 6 Forest or shrub for >1/3 area OR Emergent plants > 2/3 area points = 4 Forest or shrub for > 1/10 area OR Emergent plants > 1/3 area points = 2 Vegetation does not meet above criteria points = 0</p>	
R	Total for R3 <i>Add the points in the boxes above</i>	
R	<p>R 4.0 Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p. 50)</p> <p><i>Answer NO if the major source of water is irrigation return flow or water levels are controlled by a reservoir.</i></p> <p><i>Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows.</i></p> <p><i>Note which of the following conditions apply.</i></p> <ul style="list-style-type: none"> — There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. — There are natural resources downstream (e.g. salmon redds) than can be damaged by flooding — Other _____ <p style="text-align: center;">YES multiplier is 2 NO multiplier is 1</p>	multiplier _____
R	<p>TOTAL - Hydrologic Functions</p> <p>Multiply the score from R3 by the multiplier in R4</p> <p>Record score on p. 1 of field form</p>	

Comments

L Lake-fringe Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
L	L 1.0 Does the wetland have the <u>potential</u> to improve water quality? (see p.52)	
L	L 1.1 Average width of vegetation along the lakeshore: Vegetation is more than 33ft (10m) wide points = 6 Vegetation is between 16 ft (5m) and 33ft wide points = 3 Vegetation is 6ft (2m) wide to < 16 ft wide points = 1	
L	L 1.2 Characteristics of the vegetation in the wetland (<i>choose the appropriate description that results in the highest points, \and do not include any open water in your estimate of coverage). In this case the herbaceous plants can be either the dominant form (called emergent class) or as an understory in a shrub or forest community.</i> Herbaceous plants cover >90% of the vegetated area points = 6 Herbaceous plants cover >2/3 of the vegetated area points = 4 Herbaceous plants cover >1/3 of the vegetated area points = 3 Other vegetation that is not aquatic bed in > 2/3 vegetated area points = 3 Other vegetation that is not aquatic bed in > 1/3 vegetated area points = 1 Aquatic bed cover > 2/3 of the vegetated area points = 0	
L	Total for L1 <i>Add the points in the boxes above</i>	
L	L 2.0 Does the wetland have the <u>opportunity</u> to improve water quality? (see p. 53) Answer YES if you know or believe there are pollutants in the lake water, or surface water flowing through the wetland to the lake is polluted. <i>Note which of the following conditions provide the sources of pollutants.</i> — Wetland is along the shores of a lake or reservoir that does not meet water quality standards — Grazing in the wetland or within 150ft — Untreated stormwater flows into the wetland — Tilled fields or orchards within 150 feet of wetland — Residential or urban areas are within 150 ft of wetland — Powerboats with gasoline or diesel engines use the lake — Parks with grassy areas that are maintained, ballfields, golf courses (all within 150 ft. of shore of lake) — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier _____
L	<u>TOTAL</u> - Water Quality Functions Multiply the score from L1 by the multiplier in L2 <i>Record score on p. 1 of field form</i>	

Comments

L Lake-fringe Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce shoreline erosion		
L	L 3.0 Does the wetland have the <u>potential</u> to reduce shoreline erosion? (see p.54)	
L	<p>L 3.1 Average width and characteristics of vegetation along the lakeshore (do not include aquatic bed): (<i>choose the highest scoring description that matches conditions in the wetland</i>)</p> <p>> ¾ of the vegetation is shrubs or trees at least 33 ft (10m) wide points = 6</p> <p>> ¾ of the vegetation is shrubs or trees at least 6 ft. (2 m) wide points = 4</p> <p>> ¼ of the vegetation is shrubs or trees at least 33 ft (10m) wide points = 4</p> <p>Vegetation is at least 6 ft (2m) wide points = 2</p> <p>Vegetation is less than 6 ft (2m) wide points = 0</p>	
L	<p>L 4.0 Does the wetland have the <u>opportunity</u> to reduce erosion? (see p. 55)</p> <p>Are there features along the shore that will be impacted if the shoreline erodes? <i>Note which of the following conditions apply.</i></p> <p>— There are human structures and activities along the shore behind the wetland (buildings, fields) that can be damaged by erosion.</p> <p>— There are undisturbed natural resources along the shore (e.g. mature forests, other classes of wetland) behind the wetland than can be damaged by shoreline erosion</p> <p>— Other _____</p> <p>YES multiplier is 2 NO multiplier is 1</p>	Multiplier _____
L	<p>TOTAL - Hydrologic Functions</p> <p>Multiply the score from L3 by the multiplier in L4</p> <p>Record score on p. 1 of field form</p>	

Comments

S Slope Wetlands		Points
WATER QUALITY FUNCTIONS - Indicators that wetland functions to improve water quality		
S	S 1.0 Does the wetland have the <u>potential</u> to improve water quality? (see p.56)	
S	S 1.1 Characteristics of average slope of wetland: Slope is 1% or less (<i>a 1% slope has a 1 foot vertical drop in elevation for every 100 ft horizontal distance</i>) points = 3 Slope is between 1% and 2% points = 2 Slope is more than 2% but less than 5% points = 1 Slope is 5% or greater points = 0	
S	S 1.2 The soil 2 inches below the surface is clay, organic, or smells anoxic (hydrogen sulfide or rotten eggs). YES = 3 points NO = 0 points	
S	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: <i>Choose the points appropriate for the description that best fit conditions in the wetland. Dense vegetation means you have trouble seeing the soil surface.</i> Dense, ungrazed, herbaceous vegetation > 90% of the wetland area points = 6 Dense, ungrazed, herbaceous vegetation > 1/2 of area points = 3 Dense, woody, vegetation > 1/2 of area points = 2 Dense, ungrazed, herbaceous vegetation > 1/4 of area points = 1 Does not meet any of the criteria above for herbaceous vegetation points = 0	
S	Total for S 1 <i>Add the points in the boxes above</i>	
S	S 2.0 Does the wetland have the <u>opportunity</u> to improve water quality? (see p.58) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? <i>Note which of the following conditions provide the sources of pollutants.</i> — Grazing in the wetland or within 150ft — Wetland is a groundwater seep within the Reclamation Area — Untreated stormwater flows through the wetland — Tilled fields or orchards within 150 feet of wetland — Residential, urban areas, or golf courses are within 150 ft upslope of wetland — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier _____
S	<u>TOTAL</u> - Water Quality Functions Multiply the score from S1 by the multiplier in S2 <i>Record score on p. 1 of field form</i>	

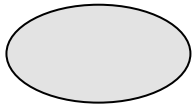
S Slope Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that wetland functions to reduce flooding and stream degradation		
S	S 3.0 Does the wetland have the <u>potential</u> to reduce flooding and stream erosion? (see p.59)	
S	<p>S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms. <i>Choose the points appropriate for the description that best fit conditions in the wetland.</i></p> <p>Dense, uncut, rigid vegetation covers > 90% of the area of the wetland. (stems of plants should be thick enough (usually > 1/8in), or dense enough, to remain erect during surface flows) points = 6</p> <p>Dense, uncut, rigid vegetation > 1/2 – 90% area of wetland points = 3</p> <p>Dense, uncut, rigid vegetation > 1/4 – 1/2 area points = 1</p> <p>More than 1/4 of area is grazed, mowed, tilled or vegetation is not rigid points = 0</p>	
S	<p>S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows:</p> <p>The slope wetland has small surface depressions that can retain water over at least 10% of its area. YES points = 2 NO points = 0</p>	
S	<p>Total for S3 Add the points in the boxes above</p>	
S	<p>S 4.0 Does the wetland have the <u>opportunity</u> to reduce flooding and erosion? (see p.61)</p> <p>Answer NO if the major source of water is irrigation return flow (e.g. a seep that is on the downstream side of a dam or at the base of an irrigated field).</p> <p>Answer YES if the wetland is in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i></p> <p>— Wetland has surface runoff that can cause flooding problems downgradient</p> <p>— Other _____</p> <p>YES multiplier is 2 NO multiplier is 1</p>	<p>multiplier</p> <p>_____</p>
S	<p>TOTAL - Hydrologic Functions Multiply the score from S3 by the multiplier in S4</p> <p>Record score on p. 1 of field form</p>	

Comments

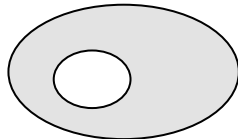
These questions apply to wetlands of all HGM classes.		Points									
HABITAT FUNCTIONS - Indicators that wetland functions to provide important habitat											
H 1. Does the wetland have the <u>potential</u> to provide habitat for many species?											
<p>H 1.1 <u>Vegetation structure</u> (see p.62) Check the types of vegetation present if the type covers more than 10% of the area of the wetland or ¼ acre.</p> <p> <input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants 0-12 inches high (0 – 30 cm) <input type="checkbox"/> Emergent plants >12 – 40 inches high (>30 – 100cm) <input type="checkbox"/> Emergent plants > 40 inches high (> 100 cm) <input type="checkbox"/> Scrub/shrub (areas where shrubs have >30% cover) <input type="checkbox"/> Forested (areas where trees have >30% cover) </p> <p>Add the number of vegetation types that qualify. If you have:</p> <table border="0"> <tr> <td>4-6 types record</td> <td>points = 3</td> </tr> <tr> <td>3 types</td> <td>points = 2</td> </tr> <tr> <td>2 types</td> <td>points = 1</td> </tr> <tr> <td>1 type</td> <td>points = 0</td> </tr> </table>		4-6 types record	points = 3	3 types	points = 2	2 types	points = 1	1 type	points = 0		
4-6 types record	points = 3										
3 types	points = 2										
2 types	points = 1										
1 type	points = 0										
<p>H 1.2. Is one of the vegetation types “aquatic bed?” (see p .64) YES = 1 point NO = 0 points</p>											
<p>H 1.3. <u>Surface Water</u> (see p.65) H 1.3.1 Does the wetland have areas of “open” water (without emergent or shrub plants) over at least ¼ acre or 10% of its area during the spring (March – early June) OR in early fall (August – end of September)? <i>Note: answer YES for Lake-fringe wetlands</i> YES = 3 points & go to H 1.4 NO = go to H 1.3.2 H 1.3.2 Does the wetland have an intermittent or permanent stream within its boundaries, or along one side, that has an unvegetated bottom (<i>answer yes only if H 1.3.1 is NO</i>)? YES = 3 points NO = 0 points</p>											
<p>H 1.4. <u>Richness of Plant Species</u> (see p. 66) Count the number of plant species in the wetland that cover at least 10 ft². (<i>different patches of the same species can be combined to meet the size threshold</i>) <i>You do not have to name the species.</i> <i>Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phragmites ,Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk)</i></p> <table border="0"> <tr> <td>If you counted:</td> <td>> 9 species</td> <td>points = 2</td> </tr> <tr> <td></td> <td>4-9 species</td> <td>points = 1</td> </tr> <tr> <td># of species _____</td> <td>< 4 species</td> <td>points = 0 points</td> </tr> </table>		If you counted:	> 9 species	points = 2		4-9 species	points = 1	# of species _____	< 4 species	points = 0 points	
If you counted:	> 9 species	points = 2									
	4-9 species	points = 1									
# of species _____	< 4 species	points = 0 points									

H 1.5. Interspersion of habitats (see p. 67)

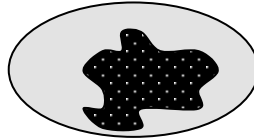
Decided from the diagrams below whether interspersion between types of vegetation (described in H 1.1), or vegetation types and un-vegetated areas (can include open water or mudflats) is high, medium, low, or none.



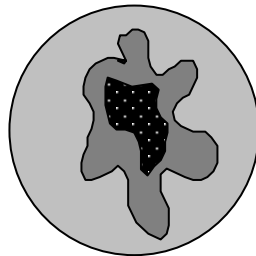
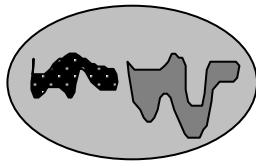
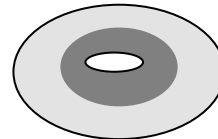
None = 0 points



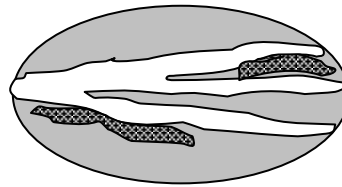
Low = 1 point



Moderate = 2 points



High = 3 points



[Riparian braided channel]

NOTE: If you have four or more vegetation types or three vegetation types and open water the rating is always "high".

H 1.6. Special Habitat Features: (see p. 68)

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

___ Loose rocks larger than 4" or large, downed, woody debris (>4in. diameter) within the area of surface ponding or in stream.

___ Cattails or bulrushes are present within the wetland.

___ Standing snags (diameter at the bottom > 4 inches) in the wetland or within 30 m (100 ft) of the edge.

___ Emergent or shrub vegetation in areas that are permanently inundated/ponded. *The presence of "yellow flag" Iris is a good indicator of vegetation in areas permanently ponded.*

___ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>45 degree slope) OR signs of recent beaver activity

___ Invasive species cover less than 20% in each stratum of vegetation

Maximum score possible = 6

TOTAL Potential to provide habitat
Add the scores in the column above

Comments

H 2.0 Does the wetland have the opportunity to provide habitat for many species?	
<p>H 2.1 <u>Buffers</u> (<i>see p. 71</i>)</p> <p><i>Choose the description that best represents condition of buffer of wetland. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of “undisturbed.”</i></p> <ul style="list-style-type: none"> — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No developed areas within undisturbed part of buffer. (relatively undisturbed also means no-grazing) Points = 5 — 330 ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. Points = 4 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. Points = 4 — 330ft (100 m) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference, . Points = 3 — 170ft (50 m) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. Points = 3 <p style="text-align: center;">If buffer does not meet any of the criteria above</p> <ul style="list-style-type: none"> — No paved areas (except paved trails) or buildings within 80ft (25 m) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — No paved areas or buildings within 170ft (50m) of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. Points = 2 — Heavy grazing in buffer. Points = 1 — Vegetated buffers are <6.6ft wide (2m) for more than 95% of the circumference (e.g . tilled fields, paving, basalt bedrock extend to edge of wetland). Points = 0 — Buffer does not meet any of the criteria above. Points = 1 	
<p>H 2.2 <u>Wet Corridors</u> (<i>see p. 72</i>)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor at least ¼ mile long with surface water or flowing water throughout most of the year (> 9 months/yr)? (<i>dams, heavily used gravel roads, paved roads, fields tilled to edge of stream, or pasture to edge of stream are considered breaks in the corridor</i>).</p> <p style="padding-left: 40px;">YES = 4 points (go to H 2.3) NO = go to H 2.2.2</p> <p>H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken, vegetated corridor, at least ¼ mile long with water flowing seasonally, OR a lake-fringe wetland without a “wet” corridor, OR a riverine wetland without a surface channel connecting to the stream?</p> <p style="padding-left: 40px;">YES = 2 points (go to H 2.3) NO go to H 2.2.3</p> <p>H 2.2.3 Is the wetland within a 1/2 mile of any permanent stream, seasonal stream, or lake (<i>do not include man-made ditches</i>)?</p> <p style="padding-left: 40px;">YES = 1 point NO = 0 points</p>	

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see p. 74)

Which of the following priority habitats are within 330ft (100m) of the wetland?

(see text for a more detailed description of these priority habitats)

- ___ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- ___ **Aspen Stands:** Pure or mixed stands of aspen greater than 2 acres.
- ___ **Cliffs:** Greater than 25 ft high and occurring below 5000 ft.
- ___ **Old-growth forests:** (east of Cascade crest): In general, stands will be >150 years of age, with 10 trees/acre that are > 21 in dbh, and 1 - 3 snags/acre > 12-14 in diameter.
- ___ **Mature forests:** Stands with average diameters exceeding 21 in dbh; crown cover may be less than 100%; decay, 80 - 160 years old east of the Cascade crest.
- ___ **Prairies and Steppe:** Relatively undisturbed areas (as indicated by dominance of native plants) where grasses and/or forbs form the natural climax plant community.
- ___ **Shrub-steppe:** Tracts of land consisting of plant communities with one or more layers of perennial grasses and a conspicuous but discontinuous layer of shrubs.
- ___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft, composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ___ **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages
- ___ **Oregon white Oak:** Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component of the stand is 25%.
- ___ **Urban Natural Open Space:** A priority species resides within or is adjacent to the open space and uses it for breeding and/or regular feeding; and/or the open space functions as a corridor connecting other *priority habitats*, especially those that would otherwise be isolated; and/or the open space is an isolated remnant of natural habitat larger than 4 ha (10 acres) and is surrounded by urban development.
- ___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.8 ha (2 acres).

If wetland has **2 or more** Priority Habitats = **4 points**

If wetland has **1** Priority Habitat = **2 points**

No Priority habitats = 0 points

Comments

<p>H 2.4 <u>Landscape</u> (choose the one description of the landscape around the wetland that best fits) (<i>see p. 76</i>)</p> <ul style="list-style-type: none"> — The wetland is in an area where annual rainfall is less than 12 inches, and its water regime is not influenced by irrigation practices, dams, or water control structures. (Generally, this means outside boundaries of reclamation areas, irrigation district, or reservoirs) points = 5 — There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing in the connection or an open water connection along a lake shore without heavy boat traffic are OK, but connections should NOT be bisected by paved roads, fill, fields, heavy boat traffic or other development). points = 5 — There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed? points = 2 — There is at least 1 wetland within ½ mile. points = 1 — Does not meet any of the four criteria above points = 0 	
H 2. TOTAL Score - opportunity for providing habitat <i>Add the scores in the column above</i>	
H 3.0 Does the wetland have indicators that its ability to provide habitat is reduced?	
<p>H 3.1 <u>Indicator of reduced habitat functions</u> (<i>see p. 75</i>)</p> <p>Do the areas of open water in the wetland have a resident population of carp (see text for indicators of the presence of carp)? (<i>NOTE: This question does not apply to reservoirs with water levels controlled by dams, such as the reservoirs on the Columbia and Snake Rivers</i>)</p> <p style="text-align: center;">YES = - 5 points NO = 0 points</p>	<i>Points will be subtracted</i>
<p>Total Score for Habitat Functions – <i>add the points for H 1, H 2, and H 3 and record the result on p. 1</i></p>	

Comments

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate Category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply.

Wetland Type <i>Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.</i>	Category
SC 1.0 Vernal pools (see p. 79) Is the wetland less than 4000 ft² , and does it meet at least two of the following criteria? <ul style="list-style-type: none"> — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>NOTE: If you find perennial, “obligate”, wetland plants the wetland is probably NOT a vernal pool</i> — The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the “wet” season. YES = Go to SC 1.1 NO - <i>not a vernal pool</i> SC 1.1 Is the vernal pool relatively undisturbed in February and March? YES = Go to SC 1.2 NO - <i>categorize based on functions</i>	
SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 miles (other wetlands, rivers, lakes etc.)? <div style="text-align: center;">YES = Category II NO = Category III</div>	Cat. II Cat. III
SC 2.0 Alkali wetlands (see p. 81) Does the wetland meets one of the following two criteria? <ul style="list-style-type: none"> — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 2 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland meets two of the following three sub-criteria? <ul style="list-style-type: none"> — Salt encrustations around more than 80% of the edge of the wetland — More than ¾ of the plant cover consists of species listed on Table 2 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. <div style="text-align: center;">YES = Category I NO - <i>categorize based on functions</i></div>	Cat. I

[illegible]

<p>SC 5.0 Forested Wetlands (<i>see p. 85</i>)</p> <p>Does the wetland have an area of forest (<i>you should have identified a forested class, if present, in question H 1.1</i>) rooted within its boundary that meet at least one of the following three criteria?</p> <ul style="list-style-type: none"> — The wetland is within the “100 year” floodplain of a river or stream — aspen (<i>Populus tremuloides</i>) are a dominant or co-dominant of the “woody” vegetation. (<i>Dominants means it represents at least 50% of the cover of woody species, co-dominant means it represents at least 20% of the total cover of woody species</i>) — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW (<i>see p. 83</i>) <p>YES = go to SC 5.1 NO - categorize based on functions</p>	
<p>SC 5.1 Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees</p> <p>Slow growing trees are: western red cedar (<i>Thuja plicata</i>), Alaska yellow cedar (<i>Chamaecyparis nootkatensis</i>), pine spp. mostly “white” pine (<i>Pinus monticola</i>), western hemlock (<i>Tsuga heterophylla</i>), Englemann spruce (<i>Picea engelmannii</i>).</p> <p>YES = Category I NO = go to SC 5.2</p>	<p>Cat. I</p>
<p>SC 5.2 Does the wetland have aspen (<i>Populus tremuloides</i>) as a dominant or co-dominant species in the category of woody species?</p> <p>YES = Category I NO = go to SC 5.3</p>	
<p>SC 5.3 Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are fast growing species.</p> <p>Fast growing species are:</p> <p>Alders – red (<i>Alnus rubra</i>), thin-leaf (<i>A. tenuifolia</i>)</p> <p>Cottonwoods – narrow-leaf (<i>Populus angustifolia</i>), black (<i>P. balsamifera</i>)</p> <p>Willows- peach-leaf (<i>Salix amygdaloides</i>), Sitka (<i>S. sitchensis</i>), Pacific (<i>S. lasiandra</i>), Aspen - (<i>Populus tremuloides</i>), Water Birch (<i>Betula occidentalis</i>)</p> <p>YES = Category II NO = go to SC 5.5</p>	<p>Cat. II</p>
<p>SC 5.5 Is the forested component of the wetland within the “100 year floodplain” of a river or stream?</p> <p>YES = Category II NO - categorize based on functions</p>	
<p>Category of wetland based on Special Characteristics</p> <p><i>Choose the “highest” rating if wetland falls into several categories.</i></p> <p>If you answered NO for all types enter “Not Applicable” on p.1</p>	